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Attorneys for Defendant PACIFIC GAS AND ELECTRIC  
COMPANY

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

PACIFIC GAS AND ELECTRIC COMPANY,

Defendant.

Case No. 14-CR-00175-WHA

**REPORT ON MARCH 19, 2020  
COLLECTION OF EVIDENCE  
FROM CRESTA-RIO OSO LINE**

Judge: Hon. William Alsup

Defendant Pacific Gas and Electric Company (“PG&E”) respectfully submits this report on PG&E’s March 19, 2020 collection of equipment from the Cresta-Rio Oso 230 kV Transmission Line (the “Cresta-Rio Oso Line”). At the February 19, 2020 hearing, PG&E and the Court discussed hooks and hanger plates supporting the lower transposition jumper on Tower 009/081 on the Cresta-Rio Oso Line that had been brought to PG&E’s and the Court’s attention by the Official Committee of Tort Claimants (the “TCC”). As PG&E explained, PG&E scheduled replacement of those hooks and hanger plates for mid-March. PG&E expedited replacement of the equipment even though the climbing inspection of Tower 009/081 that PG&E performed on January 31, 2020 did not reveal any imminent risk to public safety and resulted in Priority Code E work orders, which PG&E has 12 months to address in the ordinary course.

On the morning of March 19, 2020, PG&E removed and replaced the insulator strings, C-hooks and hanger plates on the transposition runner arms of Tower 009/081.<sup>1</sup> TCC representatives were in attendance to observe the evidence collection, and PG&E’s third-party evidence collection vendor took custody of the equipment.

At this time, PG&E has not performed a physical inspection of the removed equipment due to shelter-in-place orders currently in effect in California to address the COVID-19 pandemic. Any such inspection would require multiple individuals (including representatives of the TCC, who PG&E understands intend to participate) to travel to and congregate at the storage facilities of PG&E’s third-party evidence collection vendor. However, PG&E engineers and consultants from Exponent, Inc. (“Exponent”) have estimated the remaining life of the C-hook and hanger plate removed from the right-phase transposition runner arm on Tower 009/081 by examining photographs of the equipment taken post-removal by PG&E’s evidence collection vendor.<sup>2</sup> Attached as Exhibit A are photographs of both hook and

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<sup>1</sup> PG&E intends to replace additional equipment on Tower 009/081 as called for by the work orders resulting from the January 31, 2020 inspection, including other insulator strings and associated attachment hardware, at a later time.

<sup>2</sup> PG&E was not able to perform such analysis on the C-hook and hanger plate removed from the left-phase transposition runner arm because the still-interlocked C-hook and hanger

1 plate assemblies supporting the lower transposition jumper taken by PG&E's evidence collection  
2 vendor post-removal. Based on their analysis and the assumptions provided below, PG&E  
3 engineers and Exponent estimate (i) that the C-hook removed from the right-phase transposition  
4 arm, had it remained in service, would not have been at imminent risk of falling below the  
5 CPUC-required safety factor for over 150 years or approximately 30 years, based on assumed  
6 installation dates of 1928 and June 2002, respectively; and (ii) that the hanger plate removed  
7 from the right-phase transposition arm, had it remained in service, would not have been at  
8 imminent risk of falling below the CPUC-required safety factor for over 70 years.

9 As noted above, due to the COVID-19 pandemic, PG&E has not been able to  
10 perform any physical inspection of the equipment, nor has it been able to perform any other type  
11 of testing or analysis that requires physical access to the components. Should PG&E or  
12 Exponent later conduct any such testing or analyses, their estimates with respect to the remaining  
13 life of the equipment may change.

14 Given the available information, PG&E engineers and Exponent based their  
15 remaining life analysis on the following assumptions:

16 *First*, that the extent of material loss on the C-hook and hanger plate removed  
17 from the right-phase transposition runner arm of Tower 009/081 is approximately 33 percent and  
18 50 percent, respectively. To approximate the extent of wear on the C-hook and hanger plate  
19 removed from the right-phase transposition runner arm of Tower 009/081, PG&E engineers and  
20 Exponent referenced (i) photographs of the C-hook and hanger plate removed from the  
21 right-phase transposition runner arm of Tower 009/081, provided in Exhibit A; (ii) C-hook and  
22 hanger plate dimensions identified in PG&E drawings; and (iii) the known dimensions of similar  
23 C-hooks and hanger plates.

24 *Second*, that the equipment wears at a linear rate over time (*i.e.*, that the rate of  
25 wear remains constant from the time of installation through removal of the equipment and would  
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28 plate were zip-tied together for evidence transportation. As a result, the hook and plate contact  
surfaces are not visible in the photographs taken by the evidence collection vendor.

1 have stayed constant had the equipment remained on the tower).

2           *Third*, that the specific hook and hanger plate assembly on the right-phase  
3 transposition runner arm of Tower 009/081 would be at imminent risk of falling below a safety  
4 factor of 1.33, or two-thirds of the CPUC-prescribed safety factor of 2 for this type of equipment,  
5 as it reaches 90 percent material loss. The safety factor for a given piece of equipment is  
6 calculated by dividing the maximum load the equipment is capable of supporting by the load the  
7 equipment is required to support. Here, PG&E's estimate of the maximum load the C-hook and  
8 hanger plate on the right-phase transposition runner arm of Tower 009/081 would experience in  
9 service is approximately 375 pounds. Based on this estimated loading condition, PG&E has  
10 calculated that the C-hook and hanger plate assembly on the right-phase transposition runner arm  
11 of Tower 009/081 would not reach a safety factor of 1.33 until it had 93 percent material loss.  
12 As explained in PG&E's March 2, 2020 submission, CPUC General Order 95 provides that  
13 equipment must be "replaced or reinforced" before being reduced to less than two-thirds of its  
14 prescribed safety factor, and C-hooks and hanger plates are types of "pole line hardware" subject  
15 to a safety factor of 2. (Dkt. 1177 at 11-12.)

16           *Fourth*, that the hanger plate was installed in approximately 1928. Based on  
17 currently available information, PG&E believes this may be the installation date because the  
18 Cresta-Rio Oso Line was placed into service in approximately 1928. At this time, PG&E is not  
19 aware of any information in PG&E records indicating that the hanger plate was replaced in  
20 subsequent years.

21           *Fifth*, that the C-hook at issue was installed in either 1928 or June 2002. Based on  
22 its records, PG&E understands that the insulator string on the right-phase transposition runner  
23 arm was found to have been replaced in June 2002. PG&E cannot determine conclusively from  
24 the records associated with that work whether the C-hook was replaced together with the  
25 insulator string. As a result, PG&E engineers and Exponent performed remaining life  
26 calculations of the C-hook assuming alternative installation dates of approximately 1928 and  
27 June 2002, which represent the earliest and latest potential installation dates for the C-hook.

1 PG&E's current standards provide that C-hooks and hanger plates that have  
2 material loss of 30 to 50 percent are to be assigned Priority Code E, a designation that requires  
3 they be replaced within 12 months (or 6 months if the structure is located in a Tier 3 High  
4 Fire-Threat District area). As noted above, based on the photographs taken during the evidence  
5 collection, PG&E believes that the percentage of wear on the C-hook and hanger plate removed  
6 from the right-phase transposition arm of Tower 009/081 is approximately 33 percent and  
7 approximately 50 percent, respectively. Accordingly, PG&E has not altered its assessment  
8 following the January 31, 2020 inspection that the degree of wear on that equipment constituted  
9 Priority Code E conditions under its current standards.

1 Dated: April 2, 2020

Respectfully Submitted,

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